

## **Preliminary Amendment**

APPLICANT: H. GEORGE PIRES; SERIAL NO. : 10/723,604;  
FILED : NOVEMBER 25, 2003; ATT'Y DOCKET : RM-GPG

### **Claims Addendum**

Claims 1-28 (Canceled)

New claims 29-60, as follows:

29. (New) A system for monitoring the wetness condition of a diaper, the system comprising:

a sensor coupled to the diaper, said sensor having a first predetermined electrical characteristic when the associated diaper is dry and a second predetermined electrical characteristic when the associated diaper is wet;

a transmitter disposed within a transmitter housing that is detachably installable on the diaper, said transmitter, when installed on the diaper, being electrically coupled to said sensor, said transmitter being in a quiescent mode when said sensor is characterized by the first predetermined electrical characteristic and in a transmission mode when said sensor is characterized by the second predetermined electrical characteristic, said transmitter transmitting electromagnetic energy signals when in the transmission mode;

a receiver for receiving the electromagnetic energy signal transmissions from said transmitter when said transmitter is in the transmission mode; and

a coupling arrangement for simultaneously coupling said transmitter housing onto the diaper and forming the electrical coupling between said transmitter in the transmitter housing and said sensor.

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30. (New) The system of claim 29, wherein said coupling arrangement comprises a snap arrangement formed of first and second detachably engaging portions, the first engaging portion being installed on the diaper and electrically coupled to said sensor, and the second engaging portion being installed on said transmitter and electrically coupled thereto.

31. (New) The system of claim 30, wherein the first engaging portion is a female conductive portion of the snap arrangement and the second engaging portion is a male conductive portion of the snap arrangement.

32. (New) The system of claim 29, wherein said transmitter is provided with a visual indicator responsive to said transmitter being in the transmission mode.

33. (New) The system of claim 29, wherein the transmitter housing in which said transmitter is contained is a sealed housing.

34. (New) The system of claim 29, wherein said receiver is arranged to be portable.

35. (New) The system of claim 34, wherein said receiver is battery operated.

36. (New) The system of claim 29, wherein said transmitter issues an identifier code when in the transmission mode, the identifier code being encoded in the electromagnetic energy signals.

37. (New) The system of claim 36, wherein said receiver is arranged to produce a human readable indication associated with said transmitter in response to the identifier code.

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38. (New) A system for monitoring a diaper, the system comprising:

a sensor associated with the diaper, the sensor having a first predetermined electrical characteristic when the associated diaper is dry and a second predetermined electrical characteristic when the associated diaper is wet;

a transmitter detachably installed on the diaper and coupled electrically to said sensor, said transmitter having a quiescent mode responsive to said sensor when the associated diaper is dry and a transmission mode responsive to said sensor when the associated diaper is wet, said transmitter transmitting a unique identification code within the electromagnetic energy signals that are transmitted when said transmitter is in the transmission mode; and

a receiver for receiving the electromagnetic energy signal signals from said transmitter and issuing a perceptible indication, the perceptible indication being responsive exclusively to the identification code transmitted by the transmitter.

39. (New) The system of claim 38, wherein the electromagnetic energy signals are in the radio frequency range.

40. (New) The system of claim 38, wherein the electromagnetic energy signals are in the infrared frequency range.

41. (New) The system of claim 38, wherein said receiver is portable.

42. (New) The system of claim 38, wherein there is further provided a coupling arrangement for simultaneously coupling said transmitter onto the diaper and forming an electrical coupling between said transmitter and said sensor.

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43. (New) The system of claim 38, wherein said transmitter is contained in a sealed housing that is detachable from the diaper.

44. (New) The system of claim 43, wherein there is further provided a coupling arrangement for simultaneously coupling the sealed housing onto the diaper and forming the electrical coupling between said transmitter in the sealed housing and said sensor.

45. (New) A system for monitoring a plurality of diapers, each diaper being worn by a respective one of a plurality of patients, the system comprising:

a plurality of sensors, each associated with a respective one of the diapers, each sensor having a first predetermined electrical characteristic when the associated diaper is dry and a second predetermined electrical characteristic when the associated diaper is wet;

a plurality of independent transmitters, each coupled to an associated one of the sensors, each transmitter having a quiescent mode when the associated diaper is dry and a transmission mode when the associated diaper is wet, each transmitter in a transmission mode transmitting independently bursts of electromagnetic energy signals at respective intervals; and

a receiver for receiving the electromagnetic energy signal transmissions from each of said plurality of independent transmitters that is in its transmission mode, each electromagnetic energy signal transmission containing information responsive to a transmitter identification code of the respective transmitting independent transmitter.

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46. (New) The system of claim 45, wherein there is further provided a transmitter identification code generator in each of said plurality of independent transmitters for generating the associated transmitter identification code.

47. (New) The system of claim 45, wherein there is further provided a programming station for programming each of said independent transmitters with a patient identification code responsive to the identification of a respectively associated patient.

48. (New) The system of claim 45, wherein there is further provided a control processor for processing the information in each transmission.

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49. (New) A system for monitoring a plurality of diapers, each diaper being worn by a respective one of a plurality of patients, the system comprising:

a plurality of sensors, each associated with a respective one of the diapers, each sensor having a first predetermined electrical characteristic when the associated diaper is dry and a second predetermined electrical characteristic when the associated diaper is wet;

a plurality of independent transmitters, each coupled to an associated one of the sensors, each transmitter having a quiescent mode when the associated diaper is dry and a transmission mode when the associated diaper is wet, each transmitter in a transmission mode transmitting independently bursts of electromagnetic energy signals at respective intervals;

a programming station for programming each of said independent transmitters with an identification code responsive to the identification of a respective patient;

a receiver for receiving the electromagnetic energy signal transmissions from each of said plurality of independent transmitters that is in its transmission mode, each electromagnetic energy signal transmission containing information responsive to the identification code of the associated transmitting independent transmitter; and

a control processor for processing the information in each transmission.

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50. (New) A system for indicating the wetness condition of a diaper, the system comprising:

a sensor coupled to the diaper, said sensor having a first predetermined electrical characteristic when the associated diaper is dry and a second predetermined electrical characteristic when the diaper is wet; and

a confirmatory element, externally accessible, with a third predetermined electrical characteristic which remains unchanged when the diaper exhibits either the first or the second predetermined electrical characteristics.

51. (New) The system of claim 50, wherein said confirmatory element is a resistor.

52. (New) The system of claim 51, wherein the resistor has a resistance value of approximately ten thousand ohms.

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53. (New) A system for transmitting electromagnetic energy, the system comprising a transmitter having first, second, and third electrical terminals for coupling with first and second external devices, the first external device being coupled to the first and second electrical terminals and having first and second electrical characteristics responsive to environmental conditions, and the second external device being coupled to the second and third electrical terminals and having a substantially constant electrical characteristic, said transmitter having a quiescent mode when the first external device exhibits the first electrical device, and a transmission mode when the first external device exhibits the second electrical characteristic and the substantially constant electrical characteristic of the second external device is present across the second and third electrical terminals.

54. (New) The system of claim 53, wherein said transmitter transmits electromagnetic energy when in the transmission mode, and when the second predetermined electrical characteristic is present across the first and second electrical terminals simultaneously with the substantially constant electrical characteristic of the second external device being present across the second and third electrical terminals.

55. (New) The system of claim 53, wherein the first and second electrical characteristics of the first external device constitute different levels of impedance responsive to environmental humidity.

56. (New) The system of claim 53, wherein the substantially constant electrical characteristic of the second external device constitutes a predetermined electrical impedance.



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57. (New) The system of claim 56, wherein the substantially constant electrical characteristic of the second external device constitutes a predetermined electrical resistance.

58. (New) A system for monitoring the wetness condition of a diaper, the system comprising:

a sensor coupled to the diaper, said sensor having a first predetermined electrical characteristic when the associated diaper is dry and a second predetermined electrical characteristic when the associated diaper is wet;

a transmitter disposed within a transmitter housing that is detachably installable on the diaper, said transmitter, when installed on the diaper, being electrically coupled to said sensor, said transmitter being in a quiescent mode when said sensor is characterized by the first predetermined electrical characteristic and in a transmission mode when said sensor is characterized by the second predetermined electrical characteristic, said transmitter transmitting electromagnetic energy signals when in the transmission mode; and

a coupling arrangement for simultaneously coupling said transmitter housing onto the diaper and forming the electrical coupling between said transmitter in the transmitter housing and said sensor.

59. (New) The system of claim 58, wherein there is further provided a receiver for receiving the electromagnetic energy signal transmissions from said transmitter when said transmitter is in the transmission mode.

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60. (New) A diaper comprising:

first and second electrical terminals accessible on an outer surface of the diaper; and

a wetness sensor installed within the diaper and coupled electrically between said first and second electrical terminals, said wetness sensor having a first predetermined electrical characteristic when the diaper is dry and a second predetermined electrical characteristic when the diaper is wet.